

**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF ENVIRONMENTAL SERVICES**

**STATEMENT OF BASIS<sup>1</sup>**

**PROPOSED PART 70 OPERATING PERMIT 2560-00281-V1**

**NUCOR STEEL LOUISIANA  
CONSOLIDATED ENVIRONMENTAL MANAGEMENT, INC.  
CONVENT, ST. JAMES PARISH, LOUISIANA  
Agency Interest (AI) No. 157847  
Activity No. PER20100006**

**I. APPLICANT**

The applicant is: Consolidated Environmental Management, Inc.  
1915 Rexford Road, Suite 400  
Charlotte, North Carolina 28211

Facility: Nucor Steel Louisiana

SIC Code: 3312 – Steel Works, Blast Furnaces, And Rolling And Finishing Mills

Location: The facility will be located on the south side of LA Highway 3125 and east of LA Highway 70 near Convent, Louisiana. This location reflects the portion of the property surrounding the proposed facility that will be fenced. Some of the property is located north of LA Highway 3125, but no sources of air emissions will be constructed on that portion. The mailing address of the facility's location is Convent, but the facility will be located at about mile marker +163 just upstream of the community of Romeville in St. James Parish.

**II. PERMITTING AUTHORITY**

The permitting authority is: Louisiana Department of Environmental Quality  
Office of Environmental Services  
P.O. Box 4313  
Baton Rouge, Louisiana 70821-4313

**III. CONTACT INFORMATION**

Additional information may be obtained from:

Bryan D. Johnston  
P.O. Box 4313  
Baton Rouge, Louisiana 70821-4313  
Phone: (225) 219-3181

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<sup>1</sup> 40 CFR 70.7(a)(5) and LAC 33:III.531.A.4 require the permitting authority to "provide a statement that sets forth the legal and factual basis for the proposed permit conditions of any permit issued to a Part 70 source, including references to the applicable statutory or regulatory provisions."

## **STATEMENT OF BASIS**

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### **IV. FACILITY BACKGROUND AND CURRENT PERMIT STATUS**

Consolidated Environmental Management, Inc. – Nucor Steel Louisiana (Nucor) was issued Permit Nos. 2560-00281-V1 and PSD-LA-740 on May 24, 2010, allowing for the construction and operation of a new 6 million tonne per year pig iron manufacturing facility. The facility will be comprised of two blast furnaces, two batteries of non-recovery coke ovens (280 total ovens), a 2.75 million tonne per year sinter plant, several smaller process areas, storage piles, and material transfer operations.

Nucor has also submitted a separate application addressing the construction of two Direct Reduced Iron (DRI) plants. This proposal will be addressed through a separate permit action. The DRI plants would be wholly independent of the permitted pig iron manufacturing facility, and the DRI Title V permit, if approved, would address all equipment necessary to produce DRI and not in any way rely on sources addressed herein.

### **V. PROPOSED PERMIT/PROJECT INFORMATION**

A permit application and Emissions Inventory Questionnaire (EIQ) dated August 10, 2010, were received requesting a modification to Nucor's Part 70 Operating Permit. Additional information dated October 28 and November 9, 2010, was also received.

#### **Process Description**

The basic raw materials for the pig iron production process are iron ore, in lump or pellet form; coal; sinter; and flux, which may be limestone, dolomite, or electric arc furnace slag. Raw materials will be received by ship, barge, and rail, with additional supplies and materials being delivered by truck. Pig iron produced at the facility will be stored on-site in outdoor storage piles. The iron will be loaded onto trucks or rail cars and transported to the Mississippi River dock for shipment to customers by ship or barge. Coke fines from the coke handling areas will ship to customers, primarily by barge. Granulated slag and slag aggregate from the slag granulation area will be shipped to customers by barge or rail. Pulverized slag from the slag granulation/milling area will be shipped to customers, primarily by truck. Flue gas desulfurization (FGD) dust from the coke plant and the sinter plant will be shipped to a landfill, primarily by truck. Additional products and materials may be shipped by other means as conditions warrant.

The facility will process the coal into metallurgical-grade coke for use in the blast furnaces using dedicated coke ovens on the site. In the coke production process, coal is subjected to high heat in a battery of ovens in order to thermally crack the organic compounds in the coal, leaving only pure carbon, simple carbon compounds, and remaining ash in the resulting coke. During this process, the volatile fractions of the coal, collectively known as coke oven gas, are liberated. The gas is ducted from the oven chamber into the refractory oven walls and sole flues beneath the chamber, where combustion of the gas is completed. Nucor's coke ovens will be of the non-recovery

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design. In both the non-recovery and byproduct recovery designs, the process of liberating the volatile fraction of the coal is done in an oxygen-deprived atmosphere. In the non-recovery design, coal volatiles are oxidized within the ovens by the addition of combustion air and incinerated by the intense heat. The heat of combustion is released within the oven system, allowing non-recovery ovens to be self-sufficient with respect to energy. Non-recovery ovens are operated at a negative pressure, which results in no system leaks around oven doors and other interfaces.

The coke production process to be employed at Nucor Steel Louisiana consists of the following production steps:

- **Coal Preparation:** Coal from the storage piles is crushed, screened, wetted, and mixed in the coal preparation area. Coal is then pressed into the shape of a large brick by hydraulic presses, and the coal bricks are transported by a rail-mounted charging car to an oven.
- **Coal Charging:** A pusher machine drives the coal into the oven.
- **Coke Ovens:** There will be two batteries of coke ovens, with each battery containing 140 ovens. A coking cycle will last approximately 54 hours. Heat from the hot refractory in the oven begins the carbonization of the coal, and no external fuel is normally required once the ovens have reached operating temperature. The flue gas system routes the hot gases to heat recovery steam generators (HRSGs). These HRSGs produce high-pressure steam that will be routed to steam turbine generators.
- **Coke Pushing:** At the end of each coking cycle, doors on the ends of the oven are opened, and the hot coke is pushed from the oven by a ram which is extended from a pusher car. A mobile, flat quench car receives the hot coke. The quench car travels by rail, carrying the coke to the coke quench tower.
- **Coke Quenching:** The coke from the coke oven is positioned beneath one of the coke quench towers. There will be one quench tower for each coke oven battery. At the quench tower, the hot coke is deluged with water to prevent it from burning upon exposure to air. The hot steam generated from quenching is channeled by natural draft up the quench tower. Baffles in the tower structure help to retain as much of the cooling water as possible. Cooling water from the quenching process is collected beneath the quench car, filtered, and reused.
- **Coke Handling and Storage:** The quenched coke is discharged onto an inclined coke wharf to allow the coke to drain and cool before a conveyor belt carries it to a crushing and screening system. The sized coke is then transported by conveyor to the stock house for storage. Emissions from the coke screening and crushing facilities will be controlled by a baghouse.

The blast furnace is a counter-current reactor in the form of a tall, shaft-type furnace where iron-bearing materials (such as iron ore and sinter) are reduced to iron (pig iron or hot metal). It is a closed unit with virtually no atmospheric emissions. A typical burden feed consists of iron ore pellets, coke, sinter, and flux materials such as limestone or dolomite. The burden material is charged into the top of the furnace and slowly descends as hot metal is removed from the bottom. Hot metal is withdrawn from the furnace and separated into molten iron and slag in the cast house.

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Blast furnace gas is collected from off-takes at the top of the furnace. This gas contains a large fraction of carbon monoxide generated by the iron making reaction, as well as a sizeable fraction of hydrogen. After exiting the blast furnace, the blast furnace gas (topgas) will pass through a cyclone dust catcher and dust removal system, followed by a wet scrubber system. Topgas is combusted in the hot blast stoves in order to heat the incoming blast air. Remaining topgas is burned as a fuel in power boilers to generate steam. The high pressure steam produced in the boilers will be used in steam turbines connected to electric generators. The electricity produced will likely be greater than the total site electrical requirements, and a portion may be transmitted to the public utility power grid.

A sinter plant will also be constructed at the site to recycle fine materials and dust for increased raw material efficiency.

### Proposed Modifications

With this modification, Nucor proposes to:

- eliminate sources directly associated with Blast Furnace #2 (CST-201, STC-201, STV-201, STV-202, DST-201, SLG-201, SLG-202, SLG-204, SLG-205, SLG-206, SLG-207, PWR-105, PWR-106, PWR-107, and PWR-108);
- modify the permitted rates of sources affected by the removal of Blast Furnace #2 (PCI-101, PIG-101, PIG-102, SLG-301, SLG-302, SLG-303, SLG-304, SLG-305, SLG-306, PWR-100, TWR-101, and TWR-102);
- modify the permitted rates of sources experiencing changes in material throughput and storage capacity resulting from the elimination of Blast Furnace #2 and the addition of DRI Plants #1 and #2, which will be permitted separately (DOC-102, PIL-103, PIL-104, PIL-105, and FUG-101);
- transfer several sources from Permit No. 2560-00281-V0 to the DRI permit application (DOC-101, PIL-102, FUG-102, and FUG-103);
- modify the permitted rates of certain sources to reflect the installation of selective catalytic reduction (SCR) NO<sub>x</sub> control technology. These sources include the coke oven main flue stacks, sinter plant, hot blast stoves, power boilers, and pulverized coal injection mill (COK-111, COK-211, SIN-101, STV-101, PWR-101, PWR-102, PWR-103, PWR-104, and PCI-101); and
- eliminate the coke battery HRSG bypass vents (COK-105 – COK-109 and COK-205 – COK-209).

This permit modification also:

- represents the topgas boilers (PWR-101, PWR-102, PWR-103, and PWR-104) as being subject to 40 CFR 60 Subpart Db, not Subpart D; and
- updates 40 CFR 60 Subpart Y requirements to reflect the amendments to this regulation promulgated on October 8, 2009.

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#### VI. ATTAINMENT STATUS OF PARISH

<u>Pollutant</u>	<u>Attainment Status</u>	<u>Designation</u>
PM <sub>2.5</sub>	Attainment	N/A
PM <sub>10</sub>	Attainment	N/A
SO <sub>2</sub>	Attainment	N/A
NO <sub>2</sub>	Attainment	N/A
CO	Attainment	N/A
Ozone <sup>2</sup>	Attainment	N/A
Lead	Attainment	N/A

#### VII. PERMITTED AIR EMISSIONS

Sources of air emissions are listed on the "Inventories" page of the proposed permit.

Estimated emissions of criteria pollutants from the facility, in tons per year (TPY), are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM <sub>10</sub>	681.05	467.39	-213.66
SO <sub>2</sub>	3781.87	2936.86	-845.01
NO <sub>x</sub>	3791.83	457.16	-3334.67
CO	29,394.48	28,395.47	-999.01
VOC	265.22	206.72	-58.50

PM<sub>10</sub> and VOC compounds classified as LAC 33:III.Chapter 51-regulated toxic air pollutants (TAP) are speciated below. This list encompasses all Hazardous Air Pollutants (HAP) regulated pursuant to Section 112 of the Clean Air Act. Note, however, all TAPs are not HAPs (e.g., ammonia, hydrogen sulfide).

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
ammonia*	20.68	107.31	+86.63
antimony (and compounds)	0.012	<0.01	-
arsenic (and compounds)	0.100	0.03	-0.07
barium (and compounds)	0.032	0.03	-
beryllium (and compounds)	0.003	<0.01	-
cadmium (and compounds)	0.10	<0.01	-0.10

<sup>2</sup> VOC and NO<sub>x</sub> are regulated as surrogates.

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<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
chromium VI (and compounds)	0.054	0.02	-0.034
cobalt (and compounds)	< 0.01	< 0.01	-
copper (and compounds)	0.208	0.04	-0.168
lead (and compounds)	0.375	0.06	-0.315
manganese (and compounds)	0.038	0.02	-0.018
mercury (and compounds)	0.289	0.24	-0.049
nickel (and compounds)	0.089	0.03	-0.059
phosphorus**	0.048	0.05	-
selenium (and compounds)	0.022	0.01	-0.012
zinc (and compounds)	2.35	0.10	-2.25
acetonitrile	0.16	0.16	-
acrolein	0.18	0.18	-
acrylonitrile	0.79	0.79	-
benzene	56.05	56.04	-0.01
bromomethane (methyl bromide)	0.98	0.97	-0.01
bromoform	< 0.01	< 0.01	-
carbon disulfide	0.03	0.03	-
chlorobenzene	< 0.01	< 0.01	-
chloroform	0.02	0.02	-
chloromethane (methyl chloride)	1.35	1.31	-0.04
cumene	< 0.01	< 0.01	-
cyanide	1.11	1.10	-0.01
1,4-dioxane	0.28	0.28	-
dioxins/furans	0.0000015	0.0000014	-0.0000001
ethylbenzene	< 0.01	0.01	-
n-hexane	0.022	0.03	+0.008
hydrochloric acid	0.15	0.15	-
hydrofluoric acid	0.08	0.08	-
methanol	0.14	0.14	-
methyl ethyl ketone (2-butanone)	0.328	0.33	-
methyl isobutyl ketone (4-methyl-2-pentanone)	0.336	0.33	-0.006
methyl tert-butyl ether (MTBE)	< 0.01	< 0.01	-
methylene chloride (dichloromethane)	1.18	1.15	-0.03
methyl methacrylate	0.31	0.31	-

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<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
naphthalene (and methyl naphthalenes)	0.51	2.46	+1.95
PAHs (polynuclear aromatic hydrocarbons)	5.21	5.21	-
phenol	11.73	11.72	-0.01
styrene	0.10	0.10	-
1,1,2,2-tetrachloroethane	0.14	0.14	-
toluene	1.02	0.99	-0.03
1,1,1-trichloroethane	< 0.01	< 0.01	-
1,1,2-trichloroethane	< 0.01	< 0.01	-
vinyl acetate	0.28	0.28	-
xylene	0.032	0.04	+0.008
Total TAPs	107.00	192.34	+85.34

\* The ammonia increase results from the installation of NO<sub>x</sub> control technology.

\*\* Previously included in the "Emission Rates for TAP/HAP & Other Pollutants," but not the Air Permit Briefing Sheet.

Nucor Steel Louisiana is a major source of criteria pollutants, a major source of HAPs, and a major source of TAPs.

Permitted limits for individual emissions units and groups of emissions units, if applicable, are set forth in the tables of the proposed permit entitled "Emission Rates for Criteria Pollutants" and "Emission Rates for TAP/HAP & Other Pollutants." These tables are part of the permit.

Emissions calculations can be found in Appendix C of the permit application. The calculations address the manufacturer's specifications, fuel composition (e.g., sulfur content), emissions factors, and other assumptions on which the emissions limitations are based and have been reviewed for accuracy.

### General Condition XVII Activities

Very small emissions to the air resulting from routine operations that are predictable, expected, periodic, and quantifiable and that are submitted by the applicant and approved by the Air Permits Division are considered authorized discharges. These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. However, such emissions are considered when determining the facility's potential to emit for evaluation of applicable requirements. Approved General Condition XVII activities are noted in Section IX of the proposed permit.

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### **Insignificant Activities**

The emissions units or activities listed in Section X of the proposed permit have been classified as insignificant pursuant to LAC 33:III.501.B.5. By such listing, the LDEQ exempts these sources or types of sources from the requirement to obtain a permit under LAC 33:III.Chapter 5. However, such emissions are considered when determining the facility's potential to emit for evaluation of applicable requirements.

## **VIII. REGULATORY APPLICABILITY**

Regulatory applicability is discussed in three sections of the proposed permit: Section XI (Table 1), Section XI (Table 2), and Specific Requirements. Each is discussed in more detail below.

### Section XI (Table 1): Applicable Louisiana and Federal Air Quality Requirements

Section XI (Table 1) summarizes all applicable federal and state regulations. In the matrix, a "1" represents a regulation that applies to the emissions unit. A "1" is also used if the emissions unit is exempt from the emissions standards or control requirements of the regulation, but monitoring, recordkeeping, and/or reporting requirements apply.

A "2" is used to note that the regulation has requirements that would apply to the emissions unit, but the unit is exempt from these requirements due to meeting a specific criterion, such as it has not been constructed, modified, or reconstructed since the regulation has been effective. If the specific criterion changes, the emissions unit will have to comply at a future date. Each "2" entry is explained in Section XI (Table 2).

A "3" signifies that the regulation applies to this general type of source (e.g., furnace, distillation column, boiler, fugitive emissions, etc.), but does not apply to the particular emissions unit. Each "3" entry is explained in Section XI (Table 2).

If blank, the regulation clearly does not apply to this type of emissions unit.

### Section XI (Table 2): Explanation for Exemption Status or Non-Applicability of a Source

Section XI (Table 2) of the proposed permit provides explanation for either the exemption status or non-applicability of given federal or state regulation cited by 2 or 3 in the matrix presented in Section XI (Table 1).

### Specific Requirements

Applicable regulations, as well as any additional monitoring, recordkeeping, and reporting requirements necessary to demonstrate compliance with both the federal and state terms and conditions of the proposed permit, are provided in the "Specific Requirements" section. Any operating limitations (e.g., on hours of operation or



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throughput) are also set forth in this section. Associated with each Specific Requirement is a citation of the federal or state regulation upon which the authority to include that Specific Requirement is based.

#### 1. Federal Regulations

##### 40 CFR 60 – New Source Performance Standards (NSPS)

The following subparts are applicable to the Nucor Steel Louisiana facility:

- A – General Provisions
- Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
- Y – Standards of Performance for Coal Preparation and Processing Plants

See Section XI, Table 1 for a listing of the specific sources subject to the aforementioned subparts. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the “Specific Requirements” section of the proposed permit.

##### 40 CFR 61 – National Emission Standards for Hazardous Air Pollutants (NESHAP)

No NESHAP provisions are applicable to the facility.

##### 40 CFR 63 – Maximum Achievable Control Technology (MACT)

The following subparts are applicable to the Nucor Steel Louisiana facility:

- A – General Provisions
- L – National Emission Standards for Coke Oven Batteries
- CCCCC – National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks
- FFFFF – National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities

See Section XI, Table 1 for a listing of the specific sources subject to the aforementioned subparts. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the “Specific Requirements” section of the proposed permit.

##### Clean Air Act §112(g) or §112(j) – Case-By-Case MACT Determinations

A case-by-case MACT determination pursuant to §112(g) or §112(j) of the Clean Air Act was not required.

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### 40 CFR 64 – Compliance Assurance Monitoring (CAM)

Per 40 CFR 64.2(a), CAM applies to each pollutant-specific emissions unit (PSEU) that 1.) is subject to an emission limitation or standard, 2.) uses a control device to achieve compliance, and 3.) has potential pre-control device emissions that are equal to or greater than 100 percent of the amount, in TPY, required for the source to be classified as a major source.

The following emissions units are subject to CAM:

<u>ID</u>	<u>Emissions Unit</u>	<u>Pollutant</u>
EQT 0046*	SLG-403	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
EQT 0049*	SLG-406	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
EQT 0052*	SLG-409	PM
EQT 0021*	PIG-101	PM, PM <sub>10</sub> , PM <sub>2.5</sub>

Applicable CAM provisions have been incorporated into the proposed permit.

\* These sources are not considered “large pollutant-specific emissions units” as described in 40 CFR 64.5(a); however, CAM requirements were included in Permit No. 2560-00281-V0.

The following sources are “other pollutant-specific emissions units,” and a CAM plan will be required as part of the application for renewal of the permit per 40 CFR 64.5(b) unless an earlier submittal is required per 40 CFR 64.5(a)(2).

<u>ID</u>	<u>Emissions Unit</u>	<u>Pollutant</u>
ARE 0001	COK-100	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
EQT 0004	COK-104	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
RLP 0006	COK-111	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>x</sub>
EQT 0010	COK-204	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
RLP 0012	COK-211	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>x</sub>
EQT 0031	SIN-101	NO <sub>x</sub>
EQT 0033	SIN-103	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
RLP 0015	STV-101	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>x</sub>
EQT 0023	PWR-101	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
EQT 0024	PWR-102	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
EQT 0025	PWR-103	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
EQT 0026	PWR-104	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
EQT 0060	TWR-101	PM
EQT 0048	SLG-405	PM, PM <sub>10</sub>

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EQT 0051	SLG-408	PM, PM <sub>10</sub>
EQT 0022	PIG-102	PM, PM <sub>10</sub>

### Acid Rain Program

The Acid Rain Program, 40 CFR Part 72 – 78, applies to the fossil fuel-fired combustion devices listed in Tables 1-3 of 40 CFR 73.10 and other utility units, unless a unit is determined not to be an affected unit pursuant to 40 CFR 72.6(b). LDEQ has incorporated the Acid Rain Program by reference at LAC 33:III.505. Nucor is not subject to the Acid Rain Program.

## **2. SIP-Approved State Regulations**

Applicable state regulations are also noted in Section XI (Table 1) of the proposed permit. Some state regulations have been approved by the U.S. Environmental Protection Agency (EPA) as part of Louisiana's State Implementation Plan (SIP). These regulations are referred to as "SIP-approved" and are enforceable by both LDEQ and EPA. All LAC 33:III.501.C.6 citations are federally enforceable unless otherwise noted.

## **3. State-Only Regulations**

Individual chapters or sections of LAC 33:III noted by an asterisk in Section XI (Table 1) are designated "state-only" pursuant to 40 CFR 70.6(b)(2). Terms and conditions of the proposed permit citing these chapters or sections are not SIP-approved and are not subject to the requirements of 40 CFR Part 70. These terms and conditions are enforceable by LDEQ, but not EPA. All conditions not designated as "state-only" are presumed to be federally enforceable.

### State MACT (LAC 33:III.Chapter 51)

Nucor Steel Louisiana is a major source of LAC 33:III.Chapter 51-regulated TAP. The owner or operator of any major source that emits or is permitted to emit a Class I or Class II TAP at a rate equal to or greater than the Minimum Emission Rate (MER) listed for that pollutant in LAC 33:III.5112 shall control emissions of that TAP to a degree that constitutes Maximum Achievable Control Technology (MACT), except that compliance with an applicable federal standard promulgated by the U.S. EPA in 40 CFR Part 63 shall constitute compliance with MACT for emissions of toxic air pollutants. Applicable Part 63 standards are addressed in Section VIII.1 of this Statement of Basis. MACT is not required for Class III TAPs; however, the impact of all TAP emissions must be below their respective Ambient Air Standards (AAS). State MACT requirements are cited as LAC 33:III.5109.A.1 in the proposed permit.

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#### IX. NEW SOURCE REVIEW (NSR)

##### 1. Prevention of Significant Deterioration (PSD)

The facility's source category is listed in Table A of the definition of "major stationary source" in LAC 33:III.509. As such, the PSD major source threshold is 100 TPY (of any regulated NSR pollutant).

Nucor is a major stationary source under the PSD program, LAC 33:III.509. However, other than the installation of additional NO<sub>x</sub> control equipment, there are no physical changes or changes in the method of operation associated with this permit modification.

##### 2. Nonattainment New Source Review (NNSR)

Nucor is located in an attainment area; therefore, NNSR does not apply.

##### 3. Notification of Federal Land Manager

The Federal Land Manager (FLM) is responsible for evaluating a facility's projected impact on the Air Quality Related Values (AQRV) (e.g., visibility, sulfur and nitrogen deposition, any special considerations concerning sensitive resources, etc.<sup>3</sup>) and recommending that LDEQ either approve or disapprove the facility's permit application based on anticipated impacts. The FLM also may suggest changes or conditions on a permit. However, LDEQ makes the final decision on permit issuance. The FLM also advises reviewing agencies and permit applicants about other FLM concerns, identifies AQRV and assessment parameters for permit applicants, and makes ambient monitoring recommendations.

If LDEQ receives a PSD or NNSR permit application for a facility that "may affect" a Class I area, the FLM charged with direct responsibility for managing these lands is notified.

Because the proposed modification does not trigger PSD review, notification of the FLM was not required.

##### 4. Reasonable Possibility

As previously noted, other than the installation of additional NO<sub>x</sub> control equipment, there are no physical changes or changes in the method of operation associated with this permit modification. Neither actual nor potential emissions of a "regulated NSR pollutant" as defined in LAC 33:III.509.B will increase. As such, there is no "reasonable possibility" that the proposed project may result in a significant emissions increase.

<sup>3</sup> See <http://www2.nature.nps.gov/air/Permits/ARIS/AQRV.cfm>.

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#### X. ADDITIONAL MONITORING AND TESTING REQUIREMENTS

In addition to the monitoring and testing requirements set forth by applicable state and federal regulations (see Section VIII of this Statement of Basis), a number of "LAC 33:III.507.H.1.a" and/or "LAC 33:III.501.C.6" conditions may appear in the "Specific Requirements" section of the proposed permit. These conditions have been added where an applicable regulation does not contain sufficient monitoring, recordkeeping, and/or reporting provisions to ensure compliance. LAC 33:III.507.H.1.a provisions, which may include recordkeeping requirements, are intended to fulfill Part 70 periodic monitoring obligations under 40 CFR 70.6(a)(3)(i)(B).

These citations were used to establish additional requirements for the numerous baghouses and dust filters to be employed at Nucor Steel Louisiana. The permit requires visible emissions from baghouses and fabric filters to be monitored daily. If visible emissions are observed, Nucor must return the filter to its normal operating condition as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Baghouses (including gaskets) must be inspected every six months and whenever visual checks indicate maintenance may be necessary. Elements must be changed as necessary, and records of visual checks and maintenance inspections must be maintained. Further, Nucor must keep the purchase order or manufacturer's certification showing that the installed filters meet the prescribed particulate matter removal efficiency or equivalent MERV rating.

Affected sources include the following:

- COK-100, COK-104, COK-111, COK-112, COK-113, COK-204, COK-211, COK-212, COK-213, COK-214;
- SIN-103, SIN-105, SIN-106;
- SLG-403, SLG-404, SLG-405, SLG-406, SLG-407, SLG-408, SLG-409;
- PIG-101, PIG-102;
- STC-101; and
- PCI-101.

For SIN-101 and SIN-102, where 40 CFR 63 Subpart FFFFF sets forth monitoring requirements for the baghouses, Nucor must keep the purchase order or manufacturer's certification showing that the installed filters meet the prescribed particulate matter removal efficiency or equivalent MERV rating.

LDEQ has also established comprehensive stack testing requirements. Initial performance testing for the following sources is required.

- COK-100, COK-102, COK-103, COK-111, COK-202, COK-203, COK-211;
- SIN-101, SIN-103;
- CST-101;
- SLG-101, SLG-102, SLG-403, SLG-406, SLG-409;
- PWR-101, PWR-102, PWR-103, PWR-104;

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- PIG-101;
- PCI-101; and
- STV-101.

For a number of the aforementioned sources, these tests must be repeated every 2.5 or 5 years.

For COK-111 and COK-211, LDEQ has included a condition requiring Nucor to inject activated carbon at a rate of 2 pounds of carbon per 1 million actual cubic feet of coke oven flue gas to ensure adequate control of mercury emissions.

For STV-101, LDEQ will require the scrubber flow rate to be maintained at or above 1000 gallons per minute to ensure adequate control of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. LDEQ will also require maintenance inspections of the cyclones.

To minimize emissions from tapping molten iron and slag from the bottom of the blast furnace, LDEQ will require Nucor to cover the runner system. Fume suppression of the runner system shall be accomplished using nitrogen where the design of the casthouse allows. Local collection hoods shall be installed to capture emissions from tap holes, runners, skimmers, torpedo ladle charging locations, and other emission points.

For STV-102, in order to ensure the flare is functioning properly, LDEQ will require that the presence of a flame be monitored by a heat sensing device continuously. Nucor must also develop a corrective action plan for relighting the flare.

In order to ensure SO<sub>2</sub> limitations for the Coke Battery Process Area are met, LDEQ will require Nucor to collect composite samples of blended charge material (at the charging station) and quenched coke material at least twice per week and determine the sulfur and moisture content of each sample.

## XI. OPERATIONAL FLEXIBILITY

### Emissions Caps

An emissions cap is a permitting mechanism to limit allowable emissions of two or more emissions units at or below their collective potential to emit (PTE). The proposed permit includes several emissions caps (originally established in Permit No. 2560-00281-V0).

GRP 0003 limits aggregate annual emissions from the topgas boilers (PWR-101, PWR-102, PWR-103, and PWR-104). The permit requires NO<sub>x</sub> to be continuously monitored (per 40 CFR 60 Subpart Db) and emissions of other pollutants to be verified via stack testing. Compliance is verified by monitoring the amount of natural gas and blast furnace topgas combusted in the boilers.

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GRP 0004 limits aggregate annual emissions from the slag granulation tanks (SLG-101 and SLG-102). Compliance is verified by limiting the amount of slag mass flow through both tanks to 753,187.43 tons per 12-month period.

GRP 0005 limits aggregate annual emissions from the blast furnace slag pits (SLG-104, SLG-105, and SLG-106). Compliance is verified by limiting the amount of diverted slag mass to all three pits to 37,659.4 tons per 12-month period.

#### Alternative Operating Scenarios

LAC 33:III.507.G.5 allows the owner or operator to operate under any operating scenario incorporated in the permit. Any reasonably anticipated alternative operating scenarios may be identified by the owner or operator through a permit application and included in the permit. The proposed permit does include an alternative operating scenario.

Natural gas may be fired in the topgas boilers (PWR-101, PWR-102, PWR-103, and PWR-104) such that this fuel contributes more than 41% of the total heat input. Operating under this alternate operating scenario shall be minimized to the maximum extent possible.

#### Streamlined Requirements

When applicable requirements overlap or conflict, the permitting authority may choose to include in the permit the requirement that is determined to be most stringent or protective as detailed in EPA's "White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program" (March 5, 1996). The overall objective is to determine the set of permit terms and conditions that will assure compliance with all applicable requirements for an emissions unit or group of emissions units so as to eliminate redundant or conflicting requirements. The proposed permit does not contain streamlined provisions.

## XII. PERMIT SHIELD

A permit shield, as described in 40 CFR 70.6(f) and LAC 33:III.507.I, provides an "enforcement shield" which protects the facility from enforcement action for violations of applicable federal requirements. It is intended to protect the facility from liability for violations if the permit does not accurately reflect an applicable federal or federally enforceable requirement.

For coke battery coal charging operations (COK-101, COK-201), LDEQ has determined that the combination of negative pressure ovens and compacted coal charging shall be deemed compliance with 40 CFR 63.303(b)(2), which requires an "emission control system for the capture and collection of emissions in a manner consistent with good air pollution control practices for minimizing emissions from the charging operation."

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### **XIII. IMPACTS ON AMBIENT AIR**

Emissions associated with the proposed facility were to ensure compliance with the NAAQS and AAS. Modeling was conducted for all criteria pollutants and for each toxic air pollutant (TAP) emitted above its Minimum Emission Rate (MER). With the exception of the values associated with the 1-hour NO<sub>2</sub> NAAQS and ammonia AAS, all results reflect the concentrations associated with the limits set forth in Permit No. 2560-00281-V0. The 1-hour NO<sub>2</sub> NAAQS modeling was submitted in September 2010 and represents the impact of the emissions from the combined pig iron (addressed herein) and DRI facility sources (addressed separately under Permit Nos. 3086-V0 and PSD-LA-751). The ammonia emissions increase associated with this permit modification was modeled internally by LDEQ to determine compliance with the AAS. AERMOD was employed for the NAAQS, Class II PSD increment, and TAP modeling. CALPUFF was employed for the Class I PSD increment analysis.

Based on the initial screening modeling, which considered emissions only from Nucor Steel Louisiana, NO<sub>x</sub> (annual averaging period), PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> were above the modeling significance levels; therefore, refined modeling was conducted for these pollutants. The NO<sub>x</sub> refined modeling demonstrated compliance with the NAAQS at all receptor locations, whereas the PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> refined modeling showed exceedances.

To further refine the PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> models, Nucor first determined if it had an impact above the significance level at the receptors of concern. Where Nucor's contribution was deemed significant and the receptor was located on other industrial property, the emissions of the facility located on that industrial property were removed from the model. The model was then rerun to determine if any exceedances of the NAAQS or PSD increment occurred. If Nucor's contribution was deemed significant and the receptor was not located on other industrial property, LDEQ analyzed whether Nucor had an impact above the significance level at the receptor of concern at the time during which the receptor exceeded the standard in question.

Based on the modeling received by LDEQ, no exceedances occur on other industrial property when the property owner's emissions are removed, and Nucor does not provide a significant contribution at any modeled receptor not located on industrial property at the time of a modeled exceedance.

The determination of significant contribution to an existing exceedance was performed in accordance with EPA's July 5, 1988, memorandum entitled "Air Quality Analysis for Prevention of Significant Deterioration," from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, to Thomas J. Maslany, Director, Air Management Division.



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## NAAQS Analysis

Pollutant	Averaging Period	National Ambient Air Quality Standard (NAAQS)	Calculated Maximum Ground Level Concentration (all sources plus background)	Allowed Level of Significant Impact	Calculated Maximum Ground Level Concentration (Nucor contribution)
PM <sub>2.5</sub>	24-hour	35 µg/m <sup>3</sup>	117.93 µg/m <sup>3</sup> <sup>a</sup>	1.2 µg/m <sup>3</sup>	0.9216 µg/m <sup>3</sup> <sup>c</sup>
PM <sub>2.5</sub>	Annual	15 µg/m <sup>3</sup>	35.65 µg/m <sup>3</sup> <sup>a</sup>	0.3 µg/m <sup>3</sup>	0.0615 µg/m <sup>3</sup> <sup>c</sup>
PM <sub>10</sub>	24-hour	150 µg/m <sup>3</sup>	4152.35 µg/m <sup>3</sup> <sup>a</sup>	5 µg/m <sup>3</sup>	1.58 µg/m <sup>3</sup> <sup>c</sup>
SO <sub>2</sub>	3-hour	1,300 µg/m <sup>3</sup>	8479.19 µg/m <sup>3</sup> <sup>a</sup>	25 µg/m <sup>3</sup>	17.28 µg/m <sup>3</sup> <sup>c</sup>
SO <sub>2</sub>	24-hour	365 µg/m <sup>3</sup>	2181.57 µg/m <sup>3</sup> <sup>a</sup>	5 µg/m <sup>3</sup>	3.72 µg/m <sup>3</sup> <sup>c</sup>
SO <sub>2</sub>	Annual	80 µg/m <sup>3</sup>	361.01 µg/m <sup>3</sup> <sup>a</sup>	1 µg/m <sup>3</sup>	0.24 µg/m <sup>3</sup> <sup>c</sup>
NO <sub>2</sub>	Annual	100 µg/m <sup>3</sup>	54.0 µg/m <sup>3</sup>	1 µg/m <sup>3</sup>	< 1 µg/m <sup>3</sup>
NO <sub>2</sub>	1-hour	195 µg/m <sup>3</sup>	- <sup>b</sup>	7.5 µg/m <sup>3</sup>	7.45 µg/m <sup>3</sup>
CO	1-hour	40,000 µg/m <sup>3</sup>	- <sup>b</sup>	2000 µg/m <sup>3</sup>	856.2 µg/m <sup>3</sup>
CO	8-hour	10,000 µg/m <sup>3</sup>	- <sup>b</sup>	500 µg/m <sup>3</sup>	475.7 µg/m <sup>3</sup>
Lead	3 month rolling avg.	0.15 µg/m <sup>3</sup>	- <sup>b</sup>	-	<0.01 µg/m <sup>3</sup>

<sup>a</sup> Results of the refined modeling, considering all sources plus background concentrations.

<sup>b</sup> Refined modeling was not required for these pollutants or averaging periods.

<sup>c</sup> Nucor's maximum contribution to a modeled exceedance. Receptors at which a modeled exceedance did *not* occur are addressed in table below.

Pollutant	Averaging Period	Calculated Maximum Ground Level Concentration <sup>d</sup>	National Ambient Air Quality Standard (NAAQS)
PM <sub>2.5</sub>	24-hour	5.30 µg/m <sup>3</sup>	35 µg/m <sup>3</sup>
PM <sub>2.5</sub>	Annual	1.54 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>
PM <sub>10</sub>	24-hour	28.06 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
SO <sub>2</sub>	3-hour	94.18 µg/m <sup>3</sup>	1,300 µg/m <sup>3</sup>
SO <sub>2</sub>	24-hour	38.68 µg/m <sup>3</sup>	365 µg/m <sup>3</sup>
SO <sub>2</sub>	Annual	8.39 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>

<sup>d</sup> Nucor Steel Louisiana only; these values reflect concentrations at receptors at which an exceedance did *not* occur and for which it was therefore *not* necessary to compare

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Nucor's contribution to the significance level. For short term standards (3- and 24-hour), this number is represented by the highest second high value.

#### Class I Impact Analysis

A Class I area impact analysis was performed to determine the effect of Nucor Steel Louisiana on the Breton National Wildlife Refuge. This Class I area is located approximately 187 kilometers from the proposed location of the facility. The protocol for the Class I area impact analysis was reviewed and approved by both LDEQ and a representative of the Federal Land Manager over Breton National Wildlife Refuge. The Class I area impact analysis included air quality impact, deposition impact, and visibility impairment analyses. The results of these analyses showed that the facility will not have an adverse impact on the Class I area.

Pollutant	Averaging Period	Allowed Class I PSD Increment	Modeled Class I Increment <sup>a</sup> (all modeled facilities)	Allowed Level of Significant Impact	Nucor Contribution to Increment
PM <sub>10</sub>	24-hour	8 µg/m <sup>3</sup>	0.18 µg/m <sup>3</sup>	-	-
SO <sub>2</sub>	3-hour	25 µg/m <sup>3</sup>	62.9 µg/m <sup>3</sup>	1.0 µg/m <sup>3</sup>	< 1.0 µg/m <sup>3</sup>
SO <sub>2</sub>	24-hour	5 µg/m <sup>3</sup>	31.9 µg/m <sup>3</sup>	0.2 µg/m <sup>3</sup>	< 0.2 µg/m <sup>3</sup>
SO <sub>2</sub>	Annual	2 µg/m <sup>3</sup>	0.010 µg/m <sup>3</sup>	-	-
NO <sub>x</sub>	Annual	2.5 µg/m <sup>3</sup>	0.0069 µg/m <sup>3</sup>	-	-

<sup>a</sup> When the modeled value from all modeled facilities, including Nucor Steel Louisiana, exceeds the allowed Class I PSD Increment, EPA allows Nucor's contribution to be compared to the allowed Level of Significant Impact. At locations where Nucor's contribution was deemed significant, the model determined that the contribution from Nucor and all modeled facilities did not exceed the allowed Class I PSD Increment.

#### Class II PSD Increment Analysis

Pollutant	Averaging Period	Allowed Class II PSD Increment	Modeled Class II Increment <sup>a</sup> (all modeled facilities)	Allowed Level of Significant Impact	Nucor Contribution to Increment
PM <sub>10</sub>	24-hour	30 µg/m <sup>3</sup>	14,022.9 µg/m <sup>3</sup> <sup>b</sup>	5 µg/m <sup>3</sup>	3.22 µg/m <sup>3</sup>
SO <sub>2</sub>	3-hour	512 µg/m <sup>3</sup>	8471.4 µg/m <sup>3</sup> <sup>b</sup>	25 µg/m <sup>3</sup>	17.28 µg/m <sup>3</sup>
SO <sub>2</sub>	24-hour	91 µg/m <sup>3</sup>	2036.1 µg/m <sup>3</sup> <sup>b</sup>	5 µg/m <sup>3</sup>	3.73 µg/m <sup>3</sup>
SO <sub>2</sub>	Annual	20 µg/m <sup>3</sup>	306.1 µg/m <sup>3</sup> <sup>b</sup>	1 µg/m <sup>3</sup>	0.24 µg/m <sup>3</sup>
NO <sub>x</sub>	Annual	25 µg/m <sup>3</sup>	7.43 µg/m <sup>3</sup>	-	-

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<sup>a</sup> When the modeled value from all modeled facilities, including Nucor Steel Louisiana, exceeds the allowed Class II PSD Increment, EPA allows Nucor's contribution to be compared to the allowed Level of Significant Impact.

<sup>b</sup> Results of the PSD increment modeling, considering all sources.

Pollutant	Averaging Period	Class II PSD Increment	Modeled Class II Increment <sup>c</sup>
PM <sub>10</sub>	24-hour	30 µg/m <sup>3</sup>	28.06 µg/m <sup>3</sup>
SO <sub>2</sub>	3-hour	512 µg/m <sup>3</sup>	94.18 µg/m <sup>3</sup>
SO <sub>2</sub>	24-hour	91 µg/m <sup>3</sup>	38.68 µg/m <sup>3</sup>
SO <sub>2</sub>	Annual	20 µg/m <sup>3</sup>	8.39 µg/m <sup>3</sup>

<sup>c</sup> Nucor Steel Louisiana only; these values reflect concentrations at receptors at which an exceedance did *not* occur and for which it was therefore *not* necessary to compare Nucor's contribution to the significance level. For short term standards (3- and 24-hour), this number is represented by the highest second high value.

Note: PSD increments for PM<sub>2.5</sub> will not be effective until October 20, 2011 (75 FR 64864).

**Toxic Air Pollutant Ambient Air Standard Analysis**

Only one TAP, polynuclear aromatic hydrocarbons (PAHs), exceeded 7.5% of its AAS; however, no outside sources of PAHs were within the impact area defined by the screening model. PAHs were below 75% of its AAS.

Pollutant	Averaging Period	Calculated Maximum Ground Level Concentration	Louisiana Ambient Air Standard (AAS)
acrolein	8-hour	0.041 µg/m <sup>3</sup>	5.4 µg/m <sup>3</sup>
acrylonitrile	Annual	0.0077 µg/m <sup>3</sup>	1.47 µg/m <sup>3</sup>
ammonia	8-hour	4.8 µg/m <sup>3</sup>	640 µg/m <sup>3</sup>
arsenic (and compounds)	Annual	0.00017 µg/m <sup>3</sup>	0.02 µg/m <sup>3</sup>
barium (and compounds)	8-hour	0.0057 µg/m <sup>3</sup>	11.9 µg/m <sup>3</sup>
benzene	Annual	0.54 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>
chromium (and compounds)	Annual	0.00009 µg/m <sup>3</sup>	0.01 µg/m <sup>3</sup>
copper (and compounds)	8-hour	0.00659 µg/m <sup>3</sup>	23.8 µg/m <sup>3</sup>
chlorinated dibenzo-p-dioxins <sup>a</sup>	Annual	0.00001 µg/m <sup>3</sup>	0.003 µg/m <sup>3</sup>

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Pollutant	Averaging Period	Calculated Maximum Ground Level Concentration	Louisiana Ambient Air Standard (AAS)
dichloromethane	Annual	0.00085 µg/m <sup>3</sup>	212.77 µg/m <sup>3</sup>
hydrofluoric Acid	8-hour	0.001 µg/m <sup>3</sup>	61.9 µg/m <sup>3</sup>
mercury (and compounds)	8-hour	0.00322 µg/m <sup>3</sup>	1.19 µg/m <sup>3</sup>
naphthalene (and methylnaphthalenes)	8-hour	0.46 µg/m <sup>3</sup>	1190 µg/m <sup>3</sup>
nickel (and compounds)	Annual	0.0002 µg/m <sup>3</sup>	0.21 µg/m <sup>3</sup>
polynuclear aromatic hydrocarbons	Annual	0.032 µg/m <sup>3</sup>	0.06 µg/m <sup>3</sup>
phenol	8-hour	2.68 µg/m <sup>3</sup>	452 µg/m <sup>3</sup>
zinc (and compounds)	8-hour	0.014 µg/m <sup>3</sup>	119 µg/m <sup>3</sup>

<sup>a</sup> This modeling result actually represents combined emissions of chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans. As both compounds have the same AAS, emissions of these compounds were modeled together and compared to the identical AAS. Since all of the emissions were modeled together, actual ambient concentrations of chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans are expected to be lower than the modeled result.

### Ozone Impact Analysis

LDEQ required Nucor to provide CAMx modeling to demonstrate the effects of the facility's emissions on ambient ozone concentrations in the general area surrounding the facility. The modeling was reviewed by LDEQ and EPA Region 6, and it was determined that the facility would not cause a significant impact to ozone concentrations. For the exposure-based tabular metrics (i.e., exceedance exposure, exposure greater than 80 parts per billion (ppb), grid cell hours greater than 80 ppb), Nucor's emissions result in an approximately 3 to 6 percent increase over the base case modeling estimates. For the "grid cells greater than 80 ppb anytime during an episode" metric, Nucor's emissions contribute very slightly, 0.3 to 1.0 percent. For the "daily maximum near a monitor station" metric, Nucor contributes a maximum 0.88 percent increase, and on the majority of days, less than a 0.1 percent increase.

## XIV. COMPLIANCE HISTORY AND CONSENT DECREES

Consolidated Environmental Management, Inc. has not yet constructed the Nucor Steel Louisiana facility. Thus, there are no enforcement actions pertaining to the facility.

LAC 33:III.5111.B.3.e is not applicable in the instant case. LAC 33:III.5111.B.3 reads as follows, with emphasis added:

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Each application for a permit to modify an **existing** major source facility shall include, in addition to the information required in Paragraph B.2 of this Section, the following information:

Nucor Steel Louisiana is not an "existing major source facility." Nucor's application for Permit 2560-00281-V0 complied with the requirements of LAC 33:I.1701. Per LAC 33:III.501.C.10, the "requirements of LAC 33:I.1701 are not applicable to permit modifications, unless such modifications include or are limited to a change of ownership."

### XV. REQUIREMENTS THAT HAVE BEEN SATISFIED

The following state and/or federal obligations have been satisfied and are therefore not included as Specific Requirements.

<u>Source ID</u>	<u>Citation</u>	<u>Description</u>
None.		

### XVI. OTHER REQUIREMENTS

Executive Order No. BJ 2008-7 directs all state agencies to administer their regulatory practices, programs, contracts, grants, and all other functions vested in them in a manner consistent with Louisiana's Comprehensive Master Plan for a Sustainable Coast and public interest to the maximum extent possible. If a proposed facility or modification is located in the Coastal Zone, LDEQ requires the applicant to document whether or not a Coastal Use Permit is required, and if so, whether it has been obtained. Coastal Use Permits are issued by the Coastal Management Division of the Louisiana Department of Natural Resources (LDNR).

LDEQ issued Water Quality Certification WQC 090120-01<sup>4</sup> on July 17, 2009, determining that the proposed placement of the fill material will not violate the water quality standards of Louisiana provided for under LAC 33:IX.Chapter 11.

The Louisiana Department of Natural Resources issued Coastal Use Permit P20081462 to Nucor on April 5, 2010. The Army Corps of Engineers also issued a permit (MVN-2008-02708-CT) for the facility on May 3, 2010.

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<sup>4</sup> EDMS Document ID 42308323

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Proposed Permit No. 2560-00281-V1**

### XVII. PUBLIC NOTICE/PUBLIC PARTICIPATION

A notice requesting public comment on the proposed permits was published in *The Enterprise*, Vacherie, on <<date>>, 2010; and in *The Advocate*, Baton Rouge, and in *The News Examiner*, Convent, on <<date>>, 2010. Copies of the public notice were also mailed to individuals who have requested to be placed on the mailing list maintained by the Office of Environmental Services on <<date>>. The proposed permit was also submitted to U.S. EPA Region 6 on <<date>>.

A public hearing was held on <<day>>, <<date>>, 2010, at the St. James Parish Courthouse, Courtroom A, 5800 LA Hwy 44, Convent, Louisiana. All comments will be considered prior to a final permit decision.

Written comments, written requests for a public hearing, or written requests for notification of the final decision regarding this permit action may be submitted to:

Ms. Soumaya Ghosn  
LDEQ, Public Participation Group  
P.O. Box 4313  
Baton Rouge, Louisiana 70821-4313

Written comments and/or written requests must be received prior to the deadline specified in the public notice. If LDEQ finds a significant degree of public interest, a public hearing will be held. All comments will be considered prior to a final permit decision.

LDEQ will send notification of the final permit decision to the applicant and to each person who has submitted written comments or a written request for notification of the final decision.

The permit application, proposed permit, and this Statement of Basis are available for review at LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, Louisiana. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). Additional copies may be viewed at the local library identified in the public notice. The available information can also be accessed electronically via LDEQ's Electronic Document Management System (EDMS) on LDEQ's public website, [www.deq.louisiana.gov](http://www.deq.louisiana.gov).

Inquiries or requests for additional information regarding this permit action should be directed to the contact identified on page 1 of this Statement of Basis.

Persons wishing to be included on the public notice mailing list or for other public participation-related questions should contact LDEQ's Public Participation Group at P.O. Box 4313, Baton Rouge, LA 70821-4313; by e-mail at [maillistrequest@ldeq.org](mailto:maillistrequest@ldeq.org); or contact LDEQ's Customer Service Center at (225) 219-LDEQ (219-5337). Alternatively, individuals may elect to receive public notices via e-mail by subscribing to

**STATEMENT OF BASIS**

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LDEQ's Public Notification List Service at  
[http://www.doa.louisiana.gov/oes/listservpage/ldeq\\_pn\\_listserv.htm](http://www.doa.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm).

Permit public notices can be viewed at LDEQ's "Public Notices" webpage, <http://www.deq.louisiana.gov/apps/pubNotice/default.asp>. Electronic access to each proposed permit and Statement of Basis current on notice is also available on this page. General information related to public participation in permitting activities can be viewed at [www.deq.louisiana.gov/portal/tabid/2198/Default.aspx](http://www.deq.louisiana.gov/portal/tabid/2198/Default.aspx).

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## APPENDIX A - ACRONYMS

AAS	Ambient Air Standard (LAC 33:III.Chapter 51)
AP-42	EPA document number of the Compilation of Air Pollutant Emission Factors
BACT	Best Available Control Technology
BTU	British Thermal Units
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAM	Compliance Assurance Monitoring, 40 CFR 64
CEMS	Continuous Emission Monitoring System
CMS	Continuous Monitoring System
CO	Carbon monoxide
COMS	Continuous Opacity Monitoring System
CFR	Code of Federal Regulations
EI	Emissions Inventory (LAC 33:III.919)
EPA	(United States) Environmental Protection Agency
EIQ	Emission Inventory Questionnaire
ERC	Emission Reduction Credit
FR	Federal Register or Fixed Roof
H <sub>2</sub> S	Hydrogen sulfide
H <sub>2</sub> SO <sub>4</sub>	Sulfuric acid
HAP	Hazardous Air Pollutants
Hg	Mercury
HON	Hazardous Organic NESHAP
IBR	Incorporation by Reference
LAER	Lowest Achievable Emission Rate
LDEQ	Louisiana Department of Environmental Quality
M	Thousand
MM	Million
MACT	Maximum Achievable Control Technology
MEK	Methyl ethyl ketone
MIK	Methyl isobutyl ketone
MSDS	Material Safety Data Sheet
MTBE	Methyl tert-butyl ether
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System (replacement to SIC)
NESHAP	National Emission Standards for Hazardous Air Pollutants
NMOC	Non-Methane Organic Compounds



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## APPENDIX A - ACRONYMS

NO <sub>x</sub>	Nitrogen Oxides
NNSR	Nonattainment New Source Review
NSPS	New Source Performance Standards
NSR	New Source Review
OEA	LDEQ Office of Environmental Assessment
OEC	LDEQ Office of Environmental Compliance
OES	LDEQ Office of Environmental Services
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter less than 10 microns in nominal diameter
PM <sub>2.5</sub>	Particulate Matter less than 2.5 microns in nominal diameter
ppm	parts per million
ppmv	parts per million by volume
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
RBLC	RACT-BACT-LAER Clearinghouse
RMP	Risk Management Plan (40 CFR 68)
SICC	Standard Industrial Classification Code
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
SOCMI	Synthetic Organic Chemical Manufacturing Industry
TAP	Toxic Air Pollutants (LAC 33:III.Chapter 51)
TOC	Total Organic Compounds
TPY	Tons Per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
µg/m <sup>3</sup>	Micrograms per Cubic Meter
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid
VRU	Vapor Recovery Unit

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## APPENDIX B – GLOSSARY

*Best Available Control Technologies (BACT)* – an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this Part (Part III) which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

*CAM - Compliance Assurance Monitoring* – A federal air regulation under 40 CFR Part 64.

*Carbon Monoxide (CO)* – A colorless, odorless gas produced by incomplete combustion of any carbonaceous (gasoline, natural gas, coal, oil, etc.) material.

*Cooling Tower* – A cooling system used in industry to cool hot water (by partial evaporation) before reusing it as a coolant.

*Continuous Emission Monitoring System (CEMS)* – The total combined equipment and systems required to continuously determine air contaminants and diluent gas concentrations and/or mass emission rate.

*Cyclone* – A control device that uses centrifugal force to separate particulate matter from the carrier gas stream.

*Federally Enforceable Specific Condition* – A federally enforceable specific condition written to limit the potential to emit (PTE) of a source. Any draft permit containing a federally enforceable specific condition must be placed on public notice and include the following:

- A clear statement of the operational limitation or condition which limits the source's potential to emit;
- Recordkeeping requirements related to the operational limitation or condition;
- A requirement that these records be made available for inspection by LDEQ personnel; and
- A requirement to report for the previous calendar year.

*Grandfathered Status* – those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

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*Lowest Achievable Emission Rate (LAER)* – for any source, the more stringent rate of emissions based on the following:

- a. the most stringent emissions limitation that is contained in the implementation plan of any state for such class or category of major stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
- b. the most stringent emissions limitation that is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified major stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

*NESHAP* – National Emission Standards for Hazardous Air Pollutants – Air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 and 63.

*Maximum Achievable Control Technology (MACT)* – the maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

*NSPS* – New Source Performance Standards – Air emission standards for specific types of facilities, as outlined in 40 CFR Part 60.

*New Source Review (NSR)* – a preconstruction review and permitting program applicable to new or modified major stationary sources of criteria air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

*Nonattainment New Source Review (NNSR)* – a New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) set forth at 40 CFR Part 50. NNSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

*Organic Compound* – any compound of carbon and another element. Examples: methane (CH<sub>4</sub>), ethane (C<sub>2</sub>H<sub>6</sub>), carbon disulfide (CS<sub>2</sub>).

*Part 70 Operating Permit* – also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.502.

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*PM<sub>10</sub>* – particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

*Potential to Emit (PTE)* – the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

*Prevention of Significant Deterioration (PSD)* – a New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

*Selective Catalytic Reduction (SCR)* – A non-combustion control technology that destroys NO<sub>x</sub> by injecting a reducing agent (e.g., ammonia) into the flue gas that, in the presence of a catalyst (e.g., vanadium, titanium, or zeolite), converts NO<sub>x</sub> into molecular nitrogen and water.

*Sulfur Dioxide (SO<sub>2</sub>)* – An oxide of sulphur.

*TAP* – LDEQ acronym for toxic air pollutants regulated under LAC 33:III.Chapter 51, Subchapter A.

*“Top Down” Approach* – In the course of determining BACT under the PSD program, an approach which requires use of the most stringent control technology found to be technically feasible and appropriate based on environmental, energy, economic, and cost impacts.

*Title V Permit* – see Part 70 Operating Permit.

*Volatile Organic Compound (VOC)* – any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the Administrator of the U.S. EPA designates as having negligible photochemical reactivity.